

**VIRGINIA  
LEVEL I TRAUMA CENTER  
CHECK LIST**

**Name of Hospital:**

**Name of Person Completing Checklist:**

**Title:**

**Contact Info:**

Hospital Mailing Address:

**City:**

**State:** Virginia

**Zip Code:**

Return  
to

Office of Emergency Medical Services  
Attention: Trauma/Critical Care Coordinator  
P.O. Box 2448  
Richmond, Virginia 23218

## **I. Institutional Organization**

### **A. Trauma Program**

- |                          |                                                                                                                                                                                                         |          |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <input type="checkbox"/> | 1. Mission statement emphasizing continuous performance improvement in the management of the trauma patient.                                                                                            | <b>E</b> |
| <input type="checkbox"/> | 2. A recognizable program within the hospital which has a surgeon as its director/physician in charge.                                                                                                  | <b>E</b> |
| <input type="checkbox"/> | 3. Support of the facilities' Board of Directors. (Board of Directors should be notified of applications for trauma designation, verification and approval of the Board of Health after a site review.) | <b>E</b> |
| <input type="checkbox"/> | 4. Administration supportive of Trauma Program.                                                                                                                                                         | <b>E</b> |
| <input type="checkbox"/> | 5. Evidence of an annual budget for Trauma Program.                                                                                                                                                     | <b>E</b> |

### **B. Trauma Services:**

#### **1. Trauma Program Medical Director:**

- |                          |                                                                                                                                                           |          |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <input type="checkbox"/> | a. Board certified/eligible general surgeon. May have emergency medicine physician as Co-Director.                                                        | <b>E</b> |
| <input type="checkbox"/> | b. Minimum three years experience on trauma service or trauma fellowship training                                                                         | <b>E</b> |
| <input type="checkbox"/> | c. Participates in regional and national trauma organizations.                                                                                            | <b>E</b> |
| <input type="checkbox"/> | d. Involved in trauma research and includes the publication of results and presentations.                                                                 | <b>E</b> |
| <input type="checkbox"/> | e. Actively involved in providing care to patients with life threatening or urgent injuries.                                                              | <b>E</b> |
| <input type="checkbox"/> | f. Oversees all aspects of multidisciplinary care from the time of injury to discharge.                                                                   | <b>E</b> |
| <input type="checkbox"/> | g. Current ATLS provider or instructor.                                                                                                                   | <b>E</b> |
| <input type="checkbox"/> | h. Will have 30 hours of category I trauma/critical care CME every three years and attend one national meeting whose focus is trauma or critical care.    | <b>E</b> |
|                          | i. Will have 30 hours of category I trauma/critical care CME every three years and/or attend one national meeting whose focus is trauma or critical care. | <b>Ø</b> |
| <input type="checkbox"/> | j. Attends more than one national meeting over three year period.                                                                                         | <b>O</b> |

- ☐ k. The Trauma Program Medical Director will provide an annual meeting and/or a self learning packet/web based learning program. All of the following shall receive this training:
- All full and part time surgeons taking trauma call.
  - The Trauma Program Manager/Trauma Coordinator.
  - Nurse practitioners and physicians assistants affiliated with the trauma program.
  - All full and part time emergency department physicians who may be caring for trauma alert patients in the Emergency Department. E
  - All nurse practitioners and physicians assistants who may be caring for trauma alert patients in the Emergency Department.
- The Trauma Program Medical Director will provide the following updates during this meeting:
- i. Highlights from national meetings and other continuing education to include a discussion of any changes applicable to the current guidelines and practice.
  - ii. A review, including updated information from ATLS.

**OR**

- ☐ Each surgeon, emergency physician, nurse practitioner or physicians assistant participating/taking call in the service or could possibly be caring for trauma alert patients in the emergency department must complete 30 Category I CME's in trauma/critical care across the three year verification period or 20 across the two year designation period. Updating ATLS may be included in these CME's  
\*The facility must choose between providing an annual update or CME tract to educate physician staff.

**2. Trauma Nurse Coordinator/Trauma Program Manager:**

- ☐ a. Must have dedicated full time TNC/TPM E
- ☐ b. Must have a TNC/TPM, may be a part-time position, though the trauma program shall be a major focus of their job description. Ø
- ☐ c. An identified TNC/TPM with overall management responsibilities for the trauma program. E
- ☐ d. Defined job description and organizational chart delineating the TNC/TPM role and responsibilities. E
- ☐ e. Must be a Registered Nurse. E
- ☐ f. The TNC/TPM, in addition to being a Registered Nurse, must possess experience in Emergency/Critical Care Nursing. E
- ☐ g. 30 CEU's/contact hours required per three year verification cycle, of which 50%, must be via an extramural source. E
- ☐ h. The TNC/TPM will attend one national meeting within the three year verification or two year initial designation period. E
- ☐ i. In addition to the national meeting in, I.B.2.h, attends other national meetings within the three year verification or two year designation. O

**3. Trauma Registrar:**

- ☐ a. Must be a minimum of one full FTE dedicated to the Trauma Registry. E
- ☐ b. A minimum of a part time trauma registrar. Ø
- ☐ c. Trauma registrars must attend 24 hours registry or trauma critical care contact hours/education hours over three years. E

### **C. Trauma Team:**

#### **1. Trauma Team Response:**

- ☐ a. There must be a clearly delineated trauma team response to the arrival of the patient with suspected or known major trauma in the Emergency Department 24 hours a day. **E**

#### **2. Trauma Surgeon:**

- ☐ a. A Trauma Surgeon must meet the patient in the ED upon arrival. A PGY4 or PGY5 general surgery resident capable of assessing emergent situations, providing control and leadership of the care of the trauma patient may meet this requirement. In the event that this requirement is provided by a resident, the trauma surgeon must be available in a timely matter. **E**
- ☐ b. The emergency physician is a designated member of the trauma team and may direct resuscitation and care of the patient until the arrival of the trauma team leader. A senior level emergency medicine resident may fulfill this function provided there is an attending emergency medicine physician present in the ED **E**
- ☐ c. Trauma/General Surgeons participating in the trauma program and taking active call must be dedicated to the facility while on trauma call and show active participation in the trauma program. **E**
- ☐ d. Trauma/general surgeons participating in the trauma program and taking active call must have completed ATLS, successfully, at least once in the past. **E**

- ☐ **3. Trauma Related Surgical Specialties:** Promptly available as needed **E**

#### **4. Anesthesiology:**

- ☐ a. Anesthesiologist in hospital 24 hours a day. (refer to Sec. II.D.1) **E**
- ☐ b. Anesthesiology must be on call and readily available 24 hours a day. (refer to Sec. II.D.2) **Ø**
- ☐ c. Anesthesiologist must be present for all emergent operative procedures on major trauma patients. (refer to Sec. II.D.3) **E**

#### **5. Minimum Physician Coverage:**

- ☐ a. A minimum of two attending level physicians must be present for the arrival of full trauma team alert patients. These physicians must be an anesthesiologist, EM physician, or general surgeon. A qualified general surgeon is expected to participate in major therapeutic decisions and be present in the emergency department for major resuscitations and at operative procedures in all seriously injured patients. **E**
- ☐ b. A minimum of one attending level physician must be present for the arrival of trauma team alert patients. This physician must have the capability to manage the initial care of the majority of injured patients and have the ability to transfer patients that exceed their resources to an appropriate level center. **Ø**

## II. Hospital Departments/Divisions/Sections:

### A. General Surgery:

- ☐ 1. Clinical capabilities in general surgery with two separate posted call schedules. One for trauma, one for general surgery. In those instances where a physician may simultaneously be listed on both schedules, there must be a defined back-up surgeon listed on the schedule to allow the trauma surgeon to provide care for the trauma patient. The trauma service director shall specify, in writing, the specific credentials that each back-up surgeon must have. These, at a minimum, must state that the back-up surgeon has surgical privileges at the trauma center and is boarded or eligible in general surgery (with board certification in general surgery within five years of completing residency). **In house 24 hours a day.** A PGY4 or PGY5 capable of assessing emergent situations in their respective specialties may fulfill this requirement. They must be capable of providing surgical treatment immediately and provide control and leadership of the care of the trauma patient.) E
2. Clinical capabilities in general surgery with two separate posted call schedules. One for trauma, one for general surgery. In those instances where a physician may simultaneously be listed on both schedules, there must be a defined back-up surgeon listed on the schedule to allow the trauma surgeon to provide care for the trauma patient. The trauma program director shall specify, in writing, the specific credentials that each back-up surgeon must have. These, at a minimum, must state that the back-up surgeon has surgical privileges at the trauma center and is boarded or eligible in general surgery (with board certification in general surgery within five years of completing residency). On Call. Trauma surgeon or PGY4/ PGY5 capable of assessing emergent situations in their respective specialties may fulfill this requirement. They must be capable of providing surgical treatment immediately and provide control and leadership of the care of the trauma patient.) Ø
3. When the trauma surgeon is not in house, the trauma surgeon should be present in the Emergency Department at the time of arrival of the patient. When sufficient prior notification has not been possible, an emergency department physician will immediately initiate the evaluation and resuscitation. Definitive surgical care must be instituted by the trauma surgeon in a timely fashion. Ø
- ☐ 4. The hospital shall establish a policy detailing the expected amount of time for the trauma surgeon to arrive from notification to arrival, this time shall not exceed 30 minutes. Selection of the interval will be based on patient outcome data. E

### B. Neurological Surgery:

- ☐ 1. An Attending Neurosurgeon must be promptly available. The in-house requirement may be fulfilled by an in-house neurosurgery resident, or a surgeon/designee who has special competence, as judged by the Chief of Neurosurgery, in the care of patients with neural trauma, and who is capable of initiating diagnostic procedures. E

2. An Attending Neurosurgeon must be promptly available. This requirement may be fulfilled by a neurosurgery resident, or a surgeon/designee who has special competence, as judged by the Chief of Neurosurgery, in the care of patients with neural trauma, and who is capable of initiating diagnostic procedures. This may be on-call from out side of the hospital.

Ø

- ☐ 3. If a neurosurgeon is responsible for more than one facility at the same time, they must have a back up schedule.

E

4. If an attending neurosurgeon is not dedicated to the Level II Trauma Center, the center must have a back up call list OR the center must demonstrate no more than 24 emergency neurosurgical procedures per year AND the center must provide a neuro-trauma diversion plan.

Ø

### **C. Emergency Medicine:**

- ☐ 1. The emergency department physician must be a recognized member of the trauma team. and be represented on the facilities trauma committee.

E

- ☐ 2. The Emergency Medical Director or their designee will have 30 hrs of Category I CME every three years and attend one national meeting with some content in trauma or critical care.

E

- ☐ 3. The Emergency Medical Director or designee will maintain a current ATLS instructor or participant certification.

E

### **D. Anesthesiology:**

- ( ) 1. Anesthesiologist in hospital 24 hours a day. (Requirements may be filled by anesthesia residents, CRNA's capable of assessing emergent situations in trauma patients and providing any indicated treatment. Anesthesia personnel should be capable of providing anesthesia service for surgical trauma cases including major vascular, neurosurgical, pediatric, orthopedic, thoracic, ENT and other in-house surgical cases. If residents or CRNA's are used, a staff anesthesiologist must be present in the OR suite during surgery. Training and experience in both invasive and non-invasive monitoring is essential).

E

2. Anesthesiology. (anesthesia personnel need not be in house 24 hours a day, but the Trauma Service should ensure that anesthesia personnel can be present in the emergency room at the time of arrival of the trauma alert patient. When sufficient prior notification has not been made possible, a designated member of the trauma team will immediately initiate the evaluation and resuscitation. Requirements must be filled by anesthesia personnel capable of assessing emergent situations in trauma patients and providing any indicated treatment. Anesthesia personnel should be capable of providing anesthesia service for surgical trauma cases including major vascular, neurosurgical, pediatric, orthopedic, thoracic, ENT and other in-house surgical sub-specialties involved in trauma cases. If residents or CRNA's are used, a staff anesthesiologist must be present in the OR suite during surgery. Training and experience in both invasive and non-invasive monitoring are essential).

Ø

3. Anesthesiology. On call and promptly available from in or out of hospital. (Requirements must be filled by anesthesia personnel capable of assessing emergent situations in trauma patients and providing any indicated treatment. Anesthesia personnel should be capable of providing anesthesia service for surgical trauma cases including major vascular, neurosurgical, pediatric, orthopedic, thoracic, ENT and other in-house surgical sub-specialties involved in trauma cases. If residents or CRNA's are used, a staff anesthesiologist must be present in the OR suite during surgery. Training and experience in both invasive and non-invasive monitoring is essential).

Ø

### III. Additional Clinical Capabilities:

#### A. Surgical:

- |                          |                                               |   |
|--------------------------|-----------------------------------------------|---|
| <input type="checkbox"/> | 1. Cardiac Surgery                            | E |
| <input type="checkbox"/> | 2. Thoracic Surgery                           | E |
| <input type="checkbox"/> | 3. Orthopedic Surgery                         | E |
| <input type="checkbox"/> | 4. Pediatric Surgery                          | E |
| <input type="checkbox"/> | 5. Hand Surgery                               | E |
| <input type="checkbox"/> | 6. Microvascular/Replant Surgery              | E |
| <input type="checkbox"/> | 7. Plastic Surgery                            | E |
| <input type="checkbox"/> | 8. Maxillofacial Surgery                      | E |
| <input type="checkbox"/> | 9. Ear, Nose & Throat Surgery                 | E |
| <input type="checkbox"/> | 10. Oral Surgery                              | E |
| <input type="checkbox"/> | 11. Ophthalmic Surgery                        | E |
| <input type="checkbox"/> | 12. Gynecological Surgery/Obstetrical Surgery | E |

#### B. Non-surgical: (available)

- |                          |                              |   |
|--------------------------|------------------------------|---|
| <input type="checkbox"/> | 1. Cardiology                | E |
| <input type="checkbox"/> | 2. Pulmonology               | E |
| <input type="checkbox"/> | 3. Gastroenterology          | E |
| <input type="checkbox"/> | 4. Hematology                | E |
| <input type="checkbox"/> | 5. Infectious Disease        | E |
| <input type="checkbox"/> | 6. Internal Medicine         | E |
| <input type="checkbox"/> | 7. Nephrology                | E |
| <input type="checkbox"/> | 8. Pathology                 | E |
| <input type="checkbox"/> | 9. Pediatrics                | E |
| <input type="checkbox"/> | 10. Psychiatry               | E |
| <input type="checkbox"/> | 10. Radiology                | E |
| <input type="checkbox"/> | 11. Interventional Radiology | E |

### IV. Clinical Qualifications:

#### A. General/Trauma Surgeon's:

- |                          |                                                       |   |
|--------------------------|-------------------------------------------------------|---|
| <input type="checkbox"/> | 1. Board certified/eligible in general surgery.       | E |
| <input type="checkbox"/> | 2. Must meet the educational requirements in I.B.1.k. | E |
| <input type="checkbox"/> | 3. Successful ATLS Course completion at least once.   | E |

**B. Emergency Medicine:**

- ☐ 1. Board certified/eligible in emergency medicine (Exceptions may be made in rare instances based upon long term practice in emergency medicine). **E**
- ☐ 2. Must meet the educational requirements in I.B.1.k. **E**
- ☐ 3. Emergency department physicians must maintain current ATLS, if **not** boarded in emergency medicine. **E**

**C. Neurosurgery:**

- ☐ 1. Board certified within five years of completing residency successfully **E**
- ☐ 2. 10 hours of CME per year in neuro trauma. **O**
- ☐ 3. Must have successfully completed an ATLS course once. **O**

**D. Orthopedic Surgery:**

- ☐ 1. Board certified within five years of completing residency successfully. **E**
- ☐ 2. 10 hours of CME per year in skeletal trauma. **O**
- ☐ 3. Must have successfully completed an ATLS course once. **O**

**E. Trauma Nursing:**

- ☐ 1. All ED, OR, ICU, PACU and acute care unit staff that consistently care for the severely injured patient will receive annual update information provided by the TNC/TPM. This education may be provided by the representative/designee from each area listed here. The annual update information must include:
  - i. Highlights from national meetings.
  - ii. Updates to TNCC, ATCN, CATN, ENPC and other continuing education.

**OR**

All nursing staff who participate in the trauma team response, or who primarily care for the injured patient in the ICU, OR, PACU, ED or surgical trauma units shall have a minimum eight hours trauma/critical care CME annually. This requirement may be filled by successfully completing TNCC, ATCN, CATN, ENPC. **E**

- 2. All nursing staff caring for trauma patients have documented knowledge and skill in trauma nursing (trauma specific orientation, skills checklist).
- 3. Documentation of specific orientation and continuing education for pediatric and burn care if these patients are regularly admitted to the trauma center.
- 4. >50% of Level III nursing staff who participate in the trauma team response must successfully complete a TNCC, ATCN course or participate in a resuscitation/assessment skill based educational program involving the Level I or II trauma program manager within one year of beginning trauma team responsibilities.

## **V. Facilities/Resources/Capabilities:**

### **A. Emergency Department:**

#### **1. Personnel:**

- |                          |                                                                                                                                                                                         |          |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <input type="checkbox"/> | a. Designated physician director/chairman (see clinical qualifications under Section II.C                                                                                               | <b>E</b> |
| <input type="checkbox"/> | b. 24 hour per day staffing by physicians physically present in the emergency department that meet the standard in Section IV. B                                                        | <b>E</b> |
| <input type="checkbox"/> | c. RN's, LPN/LVN's and nursing assistants/technicians in adequate numbers in the initial resuscitation area based on acuity and trauma team composition.                                | <b>E</b> |
| <input type="checkbox"/> | d. A minimum of two RN's per shift functioning in the trauma resuscitation area that possess trauma nursing training.                                                                   | <b>E</b> |
| <input type="checkbox"/> | e. A written provision/plan for the acquisition of additional staffing on a 24 hour basis to support units with increased patient acuity, multiple emergency procedures and admissions. | <b>E</b> |
| <input type="checkbox"/> | f. Each nursing unit must have a copy of their staffing plan for review during the site visit.                                                                                          | <b>E</b> |
| <input type="checkbox"/> | g. A written protocol for the expectations and responsibilities of the trauma nurse and other team members during trauma resuscitations.                                                | <b>E</b> |
| <input type="checkbox"/> | h. Nursing documentation for trauma patients is on a trauma flow sheet or electronic medical record equivalent.                                                                         | <b>E</b> |

#### **2. Emergency Department Resuscitation Equipment:**

- |                          |                                                                                                                                                                                                                                 |          |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <input type="checkbox"/> | a. For trauma centers caring for pediatric patients, there shall be equipment corresponding to the adult equipment, appropriate to age and size. There shall be information on pediatric medication dosing with this equipment. | <b>E</b> |
| <input type="checkbox"/> | b. Broselow Tape                                                                                                                                                                                                                | <b>E</b> |
| <input type="checkbox"/> | c. Airway control & ventilation equipment (laryngoscopes with a variety of straight and curved blades, endotracheal tubes of all sizes, bag valve masks and methods to continually provide supplemental Oxygen)                 | <b>E</b> |
| <input type="checkbox"/> | d. Suction devices in adequate numbers to be able to care for the multi system trauma patient.                                                                                                                                  | <b>E</b> |
| <input type="checkbox"/> | e. End Tidal CO2 detector to confirm tracheal placement of ETT.                                                                                                                                                                 | <b>E</b> |
| <input type="checkbox"/> | f. Bedside monitor with central monitoring capabilities to include: ECG, Pulse Oximetry, central venous pressure monitoring.                                                                                                    | <b>E</b> |
| <input type="checkbox"/> | g. Cardiac Monitor immediately available with capabilities to include: ECG, Pacing, external & internal defibrillation.                                                                                                         | <b>E</b> |
| <input type="checkbox"/> | h. Intravenous fluids and administration devices to include large bore access and intraosseous devices (adult & pediatric)                                                                                                      | <b>E</b> |
| <input type="checkbox"/> | i. Thermal control equipment for warming blood & IV fluid.                                                                                                                                                                      | <b>E</b> |
| <input type="checkbox"/> | j. Method of rapid IV fluid administration, must be able to infuse warmed IV fluid and warmed blood.                                                                                                                            | <b>E</b> |
| <input type="checkbox"/> | k. Arterial Catheters.                                                                                                                                                                                                          | <b>E</b> |
| <input type="checkbox"/> | l. Sterile surgical sets/trays to include: airway control/cricothyrotomy, thoracotomy, vascular access, chest tube insertion, peritoneal lavage and central line access.                                                        | <b>E</b> |
| <input type="checkbox"/> | m. Thermal control equipment for cooling/warming patients.                                                                                                                                                                      | <b>E</b> |
| <input type="checkbox"/> | n. Gastric catheters.                                                                                                                                                                                                           | <b>E</b> |
| <input type="checkbox"/> | o. Skeletal traction devices.                                                                                                                                                                                                   | <b>E</b> |
| <input type="checkbox"/> | p. Skeletal traction device for providing cervical traction.                                                                                                                                                                    | <b>E</b> |
| <input type="checkbox"/> | q. 24 hour per day x-ray capability.                                                                                                                                                                                            | <b>E</b> |

- |                          |                                                                 |          |
|--------------------------|-----------------------------------------------------------------|----------|
| <input type="checkbox"/> | r. Sonography (FAST capability).                                | <b>O</b> |
| <input type="checkbox"/> | s. Doppler capability.                                          | <b>E</b> |
| <input type="checkbox"/> | t. Two way radio communication linked with EMS transport units. | <b>E</b> |

**B. Operating Suite:**

- |                          |                                                                                                                                                                                        |          |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <input type="checkbox"/> | 1. Immediately available 24 hours per day.                                                                                                                                             | <b>E</b> |
|                          | 2. Personnel:                                                                                                                                                                          |          |
| <input type="checkbox"/> | a. 24 hour per day immediate availability of in-house staffing.                                                                                                                        | <b>E</b> |
| <input type="checkbox"/> | b. Personnel available 24 hours per day in-house or on-call and available in a timely manner.                                                                                          | <b>Ø</b> |
| <input type="checkbox"/> | c. Operating room adequately staffed in-house 24 hours per day. There should be a second on-call team promptly available when the in-house team is participating in an operative case. | <b>E</b> |

**3. Operating Room Resuscitation Equipment:**

- |                          |                                                                                                                                                                                                                                 |          |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| <input type="checkbox"/> | a. For trauma centers caring for pediatric patients, there shall be equipment corresponding to the adult equipment, appropriate to age and size. There shall be information on pediatric medication dosing with this equipment. | <b>E</b> |
| <input type="checkbox"/> | b. Cardiopulmonary bypass capability.                                                                                                                                                                                           | <b>E</b> |
| <input type="checkbox"/> | c. Operating microscope.                                                                                                                                                                                                        | <b>E</b> |
|                          | d. Thermal control equipment                                                                                                                                                                                                    |          |
| <input type="checkbox"/> | i. For patients                                                                                                                                                                                                                 | <b>E</b> |
| <input type="checkbox"/> | ii. For blood & IV fluids                                                                                                                                                                                                       | <b>E</b> |
| <input type="checkbox"/> | e. 24 hour per day x-ray capability, including C-Arm image intensifier.                                                                                                                                                         | <b>E</b> |
| <input type="checkbox"/> | f. Endoscopes and bronchoscopes.                                                                                                                                                                                                | <b>E</b> |
| <input type="checkbox"/> | g. Rapid infuser system                                                                                                                                                                                                         | <b>E</b> |
| <input type="checkbox"/> | h. Craniotomy instruments                                                                                                                                                                                                       | <b>E</b> |
| <input type="checkbox"/> | i. Capability of fixation of long bone and pelvic fractures.                                                                                                                                                                    | <b>E</b> |

**C. Postanesthesia Recovery Room or Surgical Intensive Care:**

- |                          |                                                                                                                                            |          |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------|
|                          | 1. Personnel:                                                                                                                              |          |
| <input type="checkbox"/> | a. 24 hour per day (in-house or on-call) staffing by RN's                                                                                  | <b>E</b> |
|                          | 2. Equipment for patients of all ages, to include:                                                                                         |          |
| <input type="checkbox"/> | a. capability for resuscitation and continuous monitoring of temperature, hemodynamics & gas exchange                                      | <b>E</b> |
|                          | b. Thermal control equipment:                                                                                                              |          |
| <input type="checkbox"/> | i. for patients.                                                                                                                           | <b>E</b> |
| <input type="checkbox"/> | ii. for IV fluids, blood and blood products.                                                                                               | <b>E</b> |
| <input type="checkbox"/> | c. rapid infuser.                                                                                                                          | <b>E</b> |
| <input type="checkbox"/> | In the event that patients are boarded in the PACU as ICU overflow patients, then the equipment listed in section V.D.2 must be available. | <b>E</b> |

**D. Intensive/Critical Care Unit:**

- |                          |                                                                                                                  |          |
|--------------------------|------------------------------------------------------------------------------------------------------------------|----------|
|                          | 1. Personnel:                                                                                                    |          |
| <input type="checkbox"/> | a. Designated surgical director or co-director.                                                                  | <b>E</b> |
| <input type="checkbox"/> | b. Designated medical director or co-director.                                                                   | <b>E</b> |
| <input type="checkbox"/> | c. Registered Nurses, educated in trauma care, should have a patient ratio of not more than two patients per RN. | <b>E</b> |

- |                          |                                                                                                                                                                                               |   |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <input type="checkbox"/> | d. Physician on duty in the ICU 24 hours per day or immediately available from within the facility as long as this physician is not the sole on call MD for the emergency department.         | E |
|                          | e. Physician on duty in the ICU 24 hours per day or immediately available from within the hospital (which may be a physician who is the sole physician on call for the emergency department). | Ø |

**2. Intensive Care Unit Equipment:**

- |                          |                                                                                                                                                                                                                                 |   |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <input type="checkbox"/> | a. For trauma centers caring for pediatric patients, there shall be equipment corresponding to the adult equipment, appropriate to age and size. There shall be information on pediatric medication dosing with this equipment. | E |
| <input type="checkbox"/> | b. Airway control & ventilation equipment (laryngoscopes with a variety of straight and curved blades, endotracheal tubes of all sizes, bag valve masks and methods to continually provide supplemental Oxygen)                 | E |
| <input type="checkbox"/> | c. Oxygen source with concentration controls.                                                                                                                                                                                   | E |
| <input type="checkbox"/> | d. Cardiac emergency cart.                                                                                                                                                                                                      | E |
| <input type="checkbox"/> | e. Temporary transvenous pacer.                                                                                                                                                                                                 | E |
| <input type="checkbox"/> | f. Bedside monitor with central monitoring capabilities to include: ECG, Pulse Oximetry, pressure monitoring abilities (ICP, Venous & Arterial).                                                                                | E |
| <input type="checkbox"/> | g. Cardiac Monitor immediately available with capabilities to include: ECG, Pacing, external & internal defibrillation.                                                                                                         | E |
| <input type="checkbox"/> | h. Mechanical ventilator.                                                                                                                                                                                                       | E |
| <input type="checkbox"/> | i. Patient weighing devices.                                                                                                                                                                                                    | E |
| <input type="checkbox"/> | j. Pulmonary function measuring device.                                                                                                                                                                                         | E |
| <input type="checkbox"/> | k. Temperature control devices for patients                                                                                                                                                                                     | E |
| <input type="checkbox"/> | l. Rapid fluid infuser capability.                                                                                                                                                                                              | E |
| <input type="checkbox"/> | m. Intracranial pressure monitoring device                                                                                                                                                                                      | E |
| <input type="checkbox"/> | n. Capability to perform blood gas measurements, hematocrit levels & chest x-ray studies.                                                                                                                                       | E |

**F. Radiological Services: (available 24 hours per day)**

- |                          |                                                                                                                                  |   |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------|---|
| <input type="checkbox"/> | 1. 24 hour per day in-house radiology technician.                                                                                | E |
| <input type="checkbox"/> | 2. X-ray interpretation by radiologist available 24 hours per day.                                                               | E |
| <input type="checkbox"/> | 3. Angiography.                                                                                                                  | E |
| <input type="checkbox"/> | 4. Sonography.                                                                                                                   | E |
| <input type="checkbox"/> | 5. Computed Tomography Scanning (CT)                                                                                             | E |
| <input type="checkbox"/> | 6. 24 hour per day in-house CT Technologist.                                                                                     | E |
|                          | 7. CT Technologist available within 30 minutes of notification or documentation that procedures are available within 30 minutes. | Ø |
| <input type="checkbox"/> | 8. Magnetic Resonance Imaging (MRI).                                                                                             | E |
| <input type="checkbox"/> | 9. Resuscitation equipment to include airway management and IV therapy.                                                          | E |

**G. Clinical Laboratory Service: (to be available 24 hours/day)**

- |                          |                                                                                                         |   |
|--------------------------|---------------------------------------------------------------------------------------------------------|---|
| <input type="checkbox"/> | 1. Standard analysis of blood, urine, and other body fluids, including micro sampling when appropriate. | E |
| <input type="checkbox"/> | 2. Blood typing & cross-matching.                                                                       | E |
| <input type="checkbox"/> | 3. Coagulation studies.                                                                                 | E |

- |                          |                                                                                                   |   |
|--------------------------|---------------------------------------------------------------------------------------------------|---|
| <input type="checkbox"/> | 4. Comprehensive blood bank, or access to a community central blood bank with storage facilities. | E |
| <input type="checkbox"/> | 5. Blood gas & ph determination abilities.                                                        | E |
| <input type="checkbox"/> | 6. Microbiology abilities.                                                                        | E |

## VI. Performance Improvement Program:

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|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <input type="checkbox"/> | A. Organized performance improvement program (PI) to examine the care of the injured patient within the facility that looks towards improving outcome, decreasing complications and improving efficiency. The process should clearly document the PI process, action plan and resolution of the issue.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | E |
| <input type="checkbox"/> | 1. Demonstrate relationship between PI outcomes and new or revised clinical protocols.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | E |
| <input type="checkbox"/> | 2. Expansion of PI program to include regional trauma systems.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | O |
| <input type="checkbox"/> | B. Performance Improvement program should follow state recommended audit filters at minimum.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | E |
| <input type="checkbox"/> | 1. Participates in the Creation of institutional/regional based audit filters as identified by the institution/regional PI committees                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | O |
| <input type="checkbox"/> | C. The hospital shall set a time that the trauma surgeon has to respond to a full trauma team response. This policy should be available to be reviewed during the site review team visit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | E |
| <input type="checkbox"/> | D. Applying outcomes/benchmarking activity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | E |
| <input type="checkbox"/> | E. Participation in the Statewide Trauma Registry as mandated by the Code of Virginia. Data must be submitted to Trauma Registry within 30 days from the end of a quarter and includes: <ul style="list-style-type: none"> <li>i. patients with ICD9-CM codes of 348.1, 800.0 – 959.9, 994.0 and 994.1, excluding 905-909 (late effect injuries), 910-924 (blisters, contusions, abrasions and insect bites), 930-939 (foreign bodies)</li> <li>ii. Only those patients that were admitted to the facility are required to be reported. Includes admissions for observation (not ER observation unless held in the ER due to no inpatient bed availability).</li> <li>iii. patients transferred from one hospital to another because of acute trauma (patient may be transferred directly from the Emergency Department or from an inpatient unit).</li> <li>iv. victims of acute trauma that die within the hospital, Including, the emergency department and DOA's</li> </ul> | E |

\*hospitals may over report within these ICD9 codes if desired for internal reporting

- |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |   |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <input type="checkbox"/> | 1. Compliance with section E above on a quarterly basis.                                                                                                                                                                                                                                                                                                                                                                                                                                     | E |
| <input type="checkbox"/> | a. Utilization of State Registry/NTDB for purposes of institutional/Regional/State Research, Benchmarking for performance improvement and or Injury Prevention Programs. For mature trauma centers (by second verification visit) becomes a minimal standard.                                                                                                                                                                                                                                | O |
| <input type="checkbox"/> | F. A forum, including the Trauma Medical Director, E.D. Director, Trauma Coordinator, designee from Trauma subspecialties (neurosurgery, orthopedics) as specific issues present for multidisciplinary review of care of the injured patient including policies, procedures, system issues, and outcomes may include pre-hospital, nursing, ancillary personnel, a hospital administrator and physicians involved in trauma care. (The forum in G, below, may be combined with this meeting) | E |

- ☐ 1. 50% attendance by committee members (or designee) at multi-disciplinary review of care meetings. E
- ☐ G. The hospital will have a structured peer review committee that must have a method of evaluating trauma care. This committee must meet at least quarterly and include physicians representing pertinent specialties that include at least, trauma surgery, neurosurgery, orthopedics, emergency medicine, anesthesiology, and may include hospital management and other subspecialties as required. The TPM/TNC or designee may be a member. Outcomes of peer review will be incorporated into the educational and policy program of the trauma service. (The forum in F may be combined with this meeting) E
- H. Trauma Research Program:
- ☐ 1. Trauma Research Program designed to produce new knowledge applicable to the care of injured patients to include: an identifiable institutional review board process. E
- ☐ 2. A trauma research program designed to produce new knowledge applicable to the care of injured patients to include; three peer review publications over a three year period that could originate in any aspect of the trauma program. E
- ☐ 3. A nursing specific trauma research program designed to produce new knowledge applicable to the care of the injured patients to include trauma nursing research. Should have one publication in a three year period. E

## **VII. Outreach Program:**

- ☐ A. Annually partner with the top three referring/receiving facilities to assess, plan, implement and evaluate physician and nursing trauma educational needs of those facilities transferring severely injured patients. E
- ☐ B. Each trauma center will maintain a document that reflects the functional process for providing case specific complimentary and/or constructive feedback to the top three referring/receiving facilities for extraordinary situations. E
- ☐ C. Each trauma center will collaborate with the top three regional Transferring/receiving facilities to design and provide an annual facility specific registry report by using the hospitals PI infrastructure for transmission. E
- ☐ D. Each Trauma Center will have in place a method for showing their involvement with the Emergency Medical Services agencies and/or personnel in there region. The trauma centers should be involved in EMS education, performance improvement and a method of providing complimentary and/or constructive feedback in general or case specific as needed. E
- ☐ E. Each Trauma Center will have in place a method for showing their involvement with the community in their region. The trauma center should be involved in community awareness of trauma and the trauma system. E

### **VIII. Injury Prevention Program:**

- ☐ A. Demonstration of injury prevention activities based upon identified regional needs. **E**
- ☐ 1. Participation in a statewide trauma center collaborative injury prevention effort focused on a common need throughout the commonwealth. **O**
- ☐ 2. Perform studies in injury control while monitoring the effects of prevention programs. **O**

### **IX. Hospital Documents**

- ☐ A. Evidence of American Board of Surgery Certification documented in credentials file or other documentation showing active pursuit of current certification or re-certification in general surgery by trauma surgeons. Must be eligible for certification. **E**
- ☐ B. Evidence of recognized board certification documented in credentials file or other documentation showing active pursuit of current certification or recertification in emergency medicine or appropriate specialty by emergency department physicians. **E**
- ☐ C. Documentation of ATLS and continuing education as outlined throughout this document. **E**

### **X. Institutional Commitment:**

- ☐ A. Demonstrates knowledge, familiarity, and commitment of upper level administrative personnel to trauma service. **E**
- ☐ B. Upper level administration participation in multi-disciplinary trauma conferences/committees. **E**
- ☐ C. Evidence of yearly budget for the trauma program. **E**